Good asthma care requires a cooperative effort between the athlete and physician. Athletic trainers and therapists are in a unique position to identify athletes with poorly controlled asthma and help them gain optimal control of it. Articles in this theme issue address medications, triggers, and exercise-induced asthma. Patient education is also critical to make asthmatic athletes recognize their own active role in the treatment of their asthma and asthma exacerbations. The physician determines the need for long-term daily asthma medications, but the treatment of asthma exacerbations by necessity is first in the hands of the athlete. In order to manage these exacerbations the asthmatic athlete must be able to

- Identify situations that might trigger or provoke asthma.
- Recognize symptoms or peak-flow patterns of an impending or actual attack.
- Know what medication to use to treat or prevent an attack and when and how to use it.

This article addresses these five key areas in teaching asthmatic athletes to manage their asthma.

Therapeutic Goals

The immediate goals of treatment are to prevent the need for emergency-room visits and hospitalization and to enable the asthmatic to sleep through the night without asthma symptoms or further treatment, attend work or class regularly, participate in exercise and sports activities, and require bronchodilators only for exercise pretreatment. With an optimized treatment plan designed by the physician and patient, most days the athlete should experience no symptoms and have no limitations.

Additional goals are to minimize daily variations in peak-flow-meter readings, normalize lung function, and prevent airway remodeling. Long-range goals are desensitization against allergens when present and patient education in the basic principles of asthma management; which include avoidance of asthma triggers, recognition of early symptoms, knowledgeable use of medicines, and appropriate use of peak-flow meters.
or desensitization to the trigger, when appropriate. Seventy-five percent of asthmatics have an underlying allergy that makes the asthma worse. Most triggers cause an immediate asthmatic reaction within 15 min; one of these triggers is exercise. Many triggers result in a late-phase reaction that occurs 6–8 hr later as a result of the increase in airway inflammation caused by the trigger. This airway inflammation leads to worsening asthma and, if not controlled, airway remodeling. Some or all of the triggers discussed here might be important to an individual asthmatic, and sometimes it is the cumulative effect of several that evokes an asthma reaction. Knowing what these triggers are can dramatically improve asthma control and decrease the need for medication.

Allergy

Exposure to substances (allergens) to which an athlete has an allergy can cause asthma to suddenly worsen or cause chronically poor control. One purpose of allergy testing is to identify these triggers so that they can be avoided. Although there are many possible allergens, asthmatic athletes who compete or train outdoors are exposed to typical outdoor allergens much more than the normal population is. The increased respiratory rate and oral breathing, up to 200 L/min for short periods of time in speed and power athletes, deliver a much greater allergen load to the lower airways (Helenius & Hahtela, 2000).

Respiratory Infection

Colds, flu, and sinus infections are common triggers of asthma. In these cases the athlete cannot escape from the trigger, and his or her asthma might be exacerbated for a period of days to weeks.

Exercise

Some athletes have asthma only after exercise. Essentially, all asthmatics experience exercise-induced asthma (EIA) under the proper conditions. It typically begins 5–10 min after aerobic activity. High pollen counts, dry air, pollution, and viral infections make EIA more likely to occur. Breathing humidified air, warming up before intensifying activity, and using a customized pretreatment plan will prevent almost all EIA (see Kovan’s article on EIA in this issue). Many patients with EIA do not realize that they have chronic asthma; it is therefore essential that all athletes with EIA be evaluated by an asthma specialist and have lung-function testing.

Irritants

Smoke, smog, and strong fumes or odors are particularly irritating to asthmatics and can trigger an attack. Every effort should be made to eliminate exposure to cigarette smoke. Swimmers constantly inhale high levels of chlorine, which might necessitate a greater use of inhaled steroids to prevent chlorine from increasing inflammation of their airways (Helenius & Hahtela, 2000).

Heightened Emotion

Strong emotional reactions can trigger an asthmatic attack, but this is rare. When asthma is controlled, these factors rarely trigger significant problems. Asthma attacks triggered by these events warrant further evaluation, because they usually indicate poor overall asthma control.

Rapid Weather Change

Changes in barometric pressure and temperature are associated with asthma exacerbations in many individuals. Cold rainy fronts are most likely to trigger an asthma exacerbation, although cold dry air is most likely to potentiate EIA.

Aspirin

Approximately 10% of asthmatic patients experience severe asthma after taking aspirin or related drugs (e.g., Advil®, Motrin®, Indocin®, Tolectin®). About 20% have a measurable change in lung function without obvious symptoms. Because these medications are commonly used by athletes, it is very important that asthmatics, physicians, and athletic trainers and therapists be aware of this potential side effect.

Medications

One of the cornerstones of effective asthma treatment is the appropriate use of asthma medications (see Houglum’s article in this issue on asthma medications). It is critical for the athlete to know what medication to use based on his or her symptoms and when